

What is claimed is:

1. A clock comprising:
  - a slave clock configured to be coupled to a master clock; and
  - means within the slave clock for initiating and performing semi-automatic diagnostic tests on current status and operability of components of the slave clock upon activation of a control device, and to display results of the diagnostic tests via a display device at the slave clock.
2. The clock of claim 1, in which the control device is an operator-activated device located at the slave clock.
3. The clock of claim 1, in which the control device is an operator-activated device located at the master clock.
4. A clock comprising:
  - a slave clock configured to be coupled to a master clock;
  - means within each slave clock for activating a diagnostics mode and for initiating and performing semi-automatic diagnostic tests on current status and operability of components of the slave clock upon activation of a control device, and to display results of the diagnostic tests via a display device at the slave clock; and
  - means for optionally deactivating the diagnostics mode and for returning the slave clock to a normal clock mode.
5. The clock of claim 4, in which the control device is an operator-activated device located at the slave clock.
6. The clock of claim 4, in which the control device is an operator-activated device located at the master clock.
7. A clock comprising:
  - a slave clock configured to be coupled to a master clock, and for receiving data from the master clock using a communication protocol; and
  - means within the slave clock for determining and displaying at the slave clock the communication protocol currently in use by the slave clock.
8. A clock comprising:
  - a slave clock configured to be coupled to a master clock, and for receiving data from the master clock using a communication protocol; and

means within the slave clock for determining and displaying at the slave clock the amount of time that has passed since data was received by the slave clock from the master clock.

9. A clock comprising:

an analog slave clock including display hands driven by at least one stepper motor coupled to the hands by gears, the slave clock further configured to be coupled to a master clock; and

means within the slave clock for initiating and performing a diagnostic test to determine operability of the gears and motor upon activation of a control device, and to display results of the diagnostic test via a display device at the slave clock.

10. The clock of claim 9, in which the control device is an operator-activated device located at the slave clock.

11. The clock of claim 9, in which the control device is an operator-activated device located at the master clock.

12. A master/ slave clock system, comprising:

a master clock coupled to at least one slave clock, the master clock located remotely from the at least one slave clock; and

means within the master clock for initiating and performing semi-automatic diagnostic tests on current status and operability of components of the at least one slave clock upon activation of a control device at the master clock by an operator, and to display results of the diagnostic tests via a display device.

13. A clock adapted for use in a master/ slave clock system and including means to perform semi-automatic diagnostic tests on slave clock components, comprising:

at least one slave clock configured to be coupled to a remote master clock;

a processing unit and a memory at the slave clock, the processing unit operating under software control, the processing unit configured to control slave clock functions;

whereby the processing unit is further configured to initiate and perform diagnostic tests on current status and operability of components of the slave clock upon activation of a control device, and to display results of the diagnostic tests via a display device at the slave clock.

14. The clock of claim 13, in which the control device is an operator-activated device located at the slave clock.
15. The clock of claim 13, in which the control device is an operator-activated device located at the master clock.
16. A slave clock adapted for use in a master/ slave clock system, comprising:
  - at least one slave clock configured to be coupled to a master clock;
  - a processing unit and a memory at the slave clock, the processing unit operating under software control, the processing unit configured to control slave clock functions;
  - whereby the processing unit is further configured to initiate and perform a diagnostic test to determine the operability of the memory upon activation of a control device, and to display a result of the diagnostic test via a display device at the slave clock.
17. The clock of claim 16, in which the control device is an operator-activated device located at the slave clock.
18. The clock of claim 16, in which the control device is an operator-activated device located at the master clock.
19. The clock of claim 13, in which at least three different series of diagnostic tests may be initiated by an operator at either the slave clock or the master clock, each series being selected by activating the control device a predetermined number of times within a predetermined time interval.
20. The clock of claim 13, in which the diagnostic tests include one or more of the following: determination of communication protocol type used by the slave clock, determination of ability to receive data from the master clock, determination of motor and drive gear operability, determination of current software version in use by the slave clock, determination of presence or absence of electrical power from a power supply, determination of whether a signal is being received from an optoswitch at the slave clock, determination of whether data can be properly read into and out of the memory at the slave clock, and determination of how much time has passed since the slave clock received communication from the master clock.
21. The clock of claim 13, in which results of the diagnostic tests are communicated to an operator by way of predetermined numbers of flashes of a visual indicator within a predetermined time interval.

22. A method of performing a plurality of diagnostic tests of components of a slave clock of a master/ slave clock system, comprising the steps of:

(a) determining which diagnostic tests have been selected by an operator-activated control device to be performed at the slave clock

(b) automatically performing the diagnostic tests selected by an operator to determine current status and operating condition of a plurality of components of the slave clock; and

(c) automatically communicating results of the diagnostic tests to the operator by a display device.

23. The method of claim 22, in which at least three different series of diagnostic tests may be selected by the operator, each series being selected by activating a control device a predetermined number of times within a predetermined time interval.

24. The method of claim 22, in which the diagnostic tests include one or more of the following: determination of communication protocol type used by the slave clock, determination of ability to receive data from the master clock, determination of motor and drive gear operability, determination of current software version in use by the slave clock, determination of presence or absence of electrical power from a power supply, determination of whether a signal is being received from an optoswitch at the slave clock, determination of whether data can be properly read into and out of the memory at the slave clock, and determination of how much time has passed since the slave clock received communication from the master clock.

25. The method of claim 22, in which the control device is an operator-activated device located at the slave clock.

26. The method of claim 22, in which the control device is an operator-activated device located at the master clock.

27. The method of claim 22, in which results of the diagnostic tests are communicated to the operator by way of a predetermined numbers of flashes of a visual indicator within a predetermined time interval.